

Why Was Professor Clabberhead Utterbunk Holding Up a Piece of Bread?

Solve each inequality below. In the answer column, find the inequality that describes the solution set and notice the letter next to it. Print this letter in each box at the bottom of the page that contains the number of that exercise.



① $5x + 2 > 3x + 10$ $x > 4$

② $8 + 2x \leq 6x - 20$ $x \geq 7$

③ $4x + 49 < 9 - x$ $x < -8$

④ $9x - 99 \geq 18x$ $x \leq -11$

⑤ $3(x - 4) > 15$ $x > 9$

⑥ $28 < 4(5 - 2x)$ $x < -1$

⑦ $3(2n + 1) \geq 4n + 9$ $n \geq 3$

⑧ $3n - 10 \leq 7(2 + n)$ $n \geq -6$

⑨ $-4(2n - 6) < n + 6$ $n > 2$

⑩ $2(7n - 1) \geq 3(5 - n)$ $n \geq 1$

⑪ $7n - 2(n + 5) < 3n - 16$ $n < -3$

⑫ $4(1 - 3n) - 14 > 4(2n + 3) - 9n$
 $n < -2$

Ⓛ $n \geq 5$

8 ⓖ $n \geq -6$

3 ⓐ $x < -8$

11 Ⓞ $n < -3$

1 Ⓡ $x > 4$

6 Ⓢ $x < -1$

Ⓤ $x < 10$

4 ⓘ $x \leq -11$

10 Ⓟ $n \geq 1$

2 Ⓝ $x \geq 7$

12 ⓘ $n < -2$

7 ⓔ $n \geq 3$

9 Ⓦ $n > 2$

Ⓜ $n < -5$

5 ⓗ $x > 9$

5 7 9 3 6 10 1 11 10 11 6 4 2 8 3 12 11 3 6 12
H E W A S P R O P O S I N G A T O A S T

$$1.) 5x + 2 > 3x + 10$$

$$\begin{array}{r} -3x \quad -3x \\ 2x + 2 > 10 \end{array}$$

$$\begin{array}{r} -2 \quad -2 \\ 2x > 8 \\ \underline{2} \quad \underline{2} \end{array}$$

$$x > 4$$

$$2.) 8 + 2x \leq 6x - 20$$

$$\begin{array}{r} -2x \quad -2x \\ 8 \leq 4x - 20 \end{array}$$

$$\begin{array}{r} +20 \quad +20 \\ 28 \leq 4x \\ \underline{4} \quad \underline{4} \end{array}$$

$$7 \leq x \Rightarrow x \geq 7$$

$$3.) 4x + 49 < 9 - x$$

$$\begin{array}{r} +x \quad +x \\ 5x + 49 < 9 \\ -49 \quad -49 \end{array}$$

$$\begin{array}{r} 5x < -40 \\ \underline{5} \quad \underline{5} \end{array}$$

$$x < -8$$

$$4.) 9x - 99 \geq 18x$$

$$\begin{array}{r} -9x \quad -9x \\ -99 \geq 9x \\ \underline{9} \quad \underline{9} \end{array}$$

$$-11 \geq x$$

$$x \leq -11$$

$$5.) 3(x - 4) > 15$$

$$3x - 12 > 15$$

$$\begin{array}{r} +12 \quad +12 \\ 3x > 27 \\ \underline{3} \quad \underline{3} \end{array}$$

$$x > 9$$

$$6.) 28 < 4(5 - 2x)$$

$$28 < 20 - 8x$$

$$\begin{array}{r} -20 \quad -20 \\ 8 < -8x \\ \underline{-8} \quad \underline{-8} \end{array}$$

$$-1 > x \quad x < -1$$

$$7.) 3(2n + 1) \geq 4n + 9$$

$$6n + 3 \geq 4n + 9$$

$$\begin{array}{r} -4n \quad -4n \\ 2n + 3 \geq 9 \end{array}$$

$$\begin{array}{r} -3 \quad -3 \\ 2n \geq 6 \\ \underline{2} \quad \underline{2} \end{array}$$

$$n \geq 3$$

$$8.) 3n - 10 \leq 7(2 + n)$$

$$3n - 10 \leq 14 + 7n$$

$$\begin{array}{r} -3n \quad -3n \\ -10 \leq 14 + 4n \end{array}$$

$$\begin{array}{r} -14 \quad -14 \\ -24 \leq 4n \\ \underline{4} \quad \underline{4} \end{array}$$

$$\begin{array}{l} -6 \leq n \\ n \geq -6 \end{array}$$

$$\begin{aligned}
 9) \quad & -4(2n-6) < n+6 \\
 & -8n+24 < n+6 \\
 & \quad \quad +8n \quad \quad +8n \\
 & \quad \quad \hline
 & \quad 24 < 9n+6 \\
 & \quad \quad \quad -6 \quad \quad \quad -6 \\
 & \quad \quad \hline
 & \quad 18 < 9n \\
 & \quad \quad \quad \underline{9} \quad \quad \quad \underline{9}
 \end{aligned}$$

$$\begin{aligned}
 & 2 < n \\
 & n > 2
 \end{aligned}$$

$$\begin{aligned}
 10) \quad & 2(7n-1) \geq 3(5-n) \\
 & 14n-2 \geq 15-3n \\
 & \quad \quad +3n \quad \quad +3n \\
 & \quad \quad \hline
 & \quad 17n-2 \geq 15 \\
 & \quad \quad \quad +2 \quad \quad \quad +2 \\
 & \quad \quad \hline
 & \quad 17n \geq 17 \\
 & \quad \quad \quad \underline{17} \quad \quad \quad \underline{17}
 \end{aligned}$$

$$n \geq 1$$

$$\begin{aligned}
 11.) \quad & 7n-2(n+5) < 3n-16 \\
 & 7n-2n-10 < 3n-16 \\
 & 5n-10 < 3n-16 \\
 & \quad \quad -3n \quad \quad -3n \\
 & \quad \quad \hline
 & \quad 2n-10 < -16 \\
 & \quad \quad \quad +10 \quad \quad \quad +10 \\
 & \quad \quad \hline
 & \quad 2n < -6 \\
 & \quad \quad \quad \underline{2} \quad \quad \quad \underline{2}
 \end{aligned}$$

$$n < -3$$

$$\begin{aligned}
 12.) \quad & 4(1-3n)-14 > 4(2n+3)-9n \\
 & 4-12n-14 > 8n+12-9n \\
 & -12n-10 > -n+12 \\
 & \quad \quad +12n \quad \quad +12n \\
 & \quad \quad \hline
 & \quad -10 > 11n+12 \\
 & \quad \quad \quad -12 \quad \quad \quad -12 \\
 & \quad \quad \hline
 & \quad -22 > 11n \\
 & \quad \quad \quad \underline{11} \quad \quad \quad \underline{11}
 \end{aligned}$$

$$\begin{aligned}
 & -2 > n \\
 & n < -2
 \end{aligned}$$